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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/596,790

06/23/2006

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P30125

1488

7055 7590 09/22/2008  
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EXAMINER

VO, NGUYEN THANH

ART UNIT

PAPER NUMBER

2618

NOTIFICATION DATE

DELIVERY MODE

09/22/2008

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

gbpatent@gbpatent.com  
pto@gbpatent.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/596,790	<b>Applicant(s)</b> OKABE ET AL.	
	<b>Examiner</b> NGUYEN VO	<b>Art Unit</b> 2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 June 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

## **DETAILED ACTION**

### ***Specification***

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-5, 8-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Japanese document 2001-223534 (submitted by applicant, with English translation).

As to claim 1, the Japanese document 2001-223534 discloses a frequency converter (see figure 1) comprising a signal brancher branching means 6 that branches a locally oscillated signal (see the LO port 11) into two signals; a constant impedance element (see filters 7a, 7b) that passes the two signals; and a mixer (see mixers 3a, 3b) that respectively mixes an output from said constant impedance element with a high frequency received signal (see the RF port) and generates an intermediate frequency signal (see the IF port; see also paragraphs [0015] and [0021] which disclose RF signal or IF signal can be input signal to the frequency converter), wherein said constant impedance element has have a generally constant impedance in a frequency band of the high frequency received signal (see paragraph [0035] which discloses that the

Art Unit: 2618

impedances of the filters 7a, 7b are zero in a frequency band of the high frequency received signal).

As to claims 2, 8, signal brancher branching means 6 in figure 1; see also paragraph [0021].

As to claim 3, see paragraph [0035] which discloses that the impedances of the filters 7a, 7b are zero in a frequency band of the high frequency received signal.

As to claim 4, the functions of filters 7a, 7b would inherently read on the claimed limitations.

As to claim 5, since the filters 7a, 7b are low pass filters (see paragraph [0035]), their cut-off frequency must be an upper limit of the frequency band of the two signals as claimed.

As to claim 9, see the diode mixers 3a, 3b in figure 5.

As to claim 10, see a high frequency input terminal 10 in figure 5, an IF band filter 8 in figure 5 and an IF signal output terminal 12.

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein

Art Unit: 2618

were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese document 2001-223534.

As to claim 6, the Japanese document 2001-223534 does disclose filters 7a, 7b in figure 1, but fails to disclose that the filters are bandpass filters as claimed. Those skilled in the art, however, would have recognized that the filters 7a, 7b could also be bandpass filters without changing the spirit and scope of the invention of the Japanese document 2001-223534. In addition, the examiner takes Official Notice that such a bandpass filter is known in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to implement the filters 7a, 7b of the Japanese document 2001-223534 with conventional bandpass filters, in order to select a desired bandpass of the received RF signals.

As to claim 7, the Japanese document 2001-223534 does disclose filters 7a, 7b in figure 1, instead of a diplexer as claimed. Those skilled in the art, however, would have recognized that the filters 7a, 7b could also be replaced by conventional diplexers without changing the spirit and scope of the invention of the Japanese document 2001-223534. In addition, the examiner takes Official Notice that such a diplexer is known in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the

Art Unit: 2618

time of the invention to replace the filters 7a, 7b of the Japanese document 2001-223534 by conventional bandpass filters whose passband is the frequency band of the two signals, in order to select a desired bandpass of the received RF signals.

### ***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Gill (US 2002/0022458) discloses balun and mixer and downconverter incorporating same.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to NGUYEN VO whose telephone number is (571)272-7901. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Urban can be reached on (571) 272-7899. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2618

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Nguyen Vo/  
Primary Examiner, Art Unit 2618  
09/11/2008